

ABSTRACT

A method for generating a preamble sequence in an orthogonal frequency division multiplexing (OFDM) communication system having A subcarriers in a frequency domain. The method comprises generating a length- $M \times N$ preamble sequence, where $M \times N$ is less than A , by using a length-N Golay complementary sequence and a length-M Golay complementary sequence; and assigning elements constituting the preamble sequence to $M \times N$ subcarriers among the A subcarriers on a one-to-one mapping basis, assigning null data to
5 the remaining subcarriers excluding the $M \times N$ subcarriers from the A subcarriers,
10 and then IFFT-transforming the assigned result into time-domain data.